

WHAT IS CLAIMED IS:

5 1. A method for producing an electron-emitting device comprising an electroconductive film having an electron-emitting region between electrodes, wherein a step of forming said electron-emitting region in the electroconductive film comprises a step of heating the electroconductive film and a step of energizing the electroconductive film, in an atmosphere in which a gas for promoting cohesion of the electroconductive film exists.

10 2. A method for producing an electron-emitting device comprising an electroconductive film having an electron-emitting region between electrodes, wherein a step of forming said electron-emitting region in the electroconductive film comprises a step of energizing the electroconductive film while heating the electroconductive film, in an atmosphere in which a gas for promoting cohesion of the electroconductive film exists.

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3. The method according to Claim 1 or 2, wherein the gas for promoting the cohesion of the electroconductive film is a reducing gas.

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4. The method according to Claim 1 or 2, wherein the gas for promoting the cohesion of the

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B
cont.

*Good
Concluded*

~~electroconductive film is either one selected from H₂, CO, and CH₄.~~

5. The method according to Claim 1 or 2, wherein
5 the gas for promoting the cohesion of the
electroconductive film is H₂.

6. The method according to Claim 1 or 2, wherein
10 heating of ~~said~~ electroconductive film is effected by
heating a substrate on which the electroconductive film
is placed.

7. The method according to Claim 6, wherein the
heating of the substrate is carried out at a
15 temperature not more than 100 °C.

8. The method according to Claim 6, wherein the
heating of ~~said~~ substrate is carried out at a
temperature in the range of 50 °C to 100 °C.

20 9. The method according to Claim 1 or 2, wherein
said electroconductive film is an electroconductive
film formed through a step of dispensing a droplet
containing a metallic compound onto a substrate.

25 10. The method according to Claim 9, wherein the
dispensing of the droplet onto the substrate is carried

out by an ink jet method.

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5 11. The method according to Claim 1 or 2, wherein
said electroconductive film is an electroconductive
film comprising a metallic oxide as a matrix.

12. The method according to Claim 11, wherein
said metallic oxide is palladium oxide.

10 13. The method according to Claim 1 or 2, wherein
said electron-emitting device is a surface conduction
electron-emitting device.

15 14. A method for producing an electron source
having a plurality of electron-emitting devices,
wherein said electron-emitting devices are produced by
~~either one selected from the methods as set forth in~~^{either}
~~Claims 1 to 13.~~

20 15. A method for producing an image-forming
apparatus comprising an electron source having a
plurality of electron-emitting devices and an image-
forming member for forming an image under irradiation
of electrons from the electron source, wherein said
25 electron-emitting devices are produced by ~~either one~~
~~selected from the methods as set forth in~~^{Claim 1 or 2}
~~Claims 1 to 13.~~

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